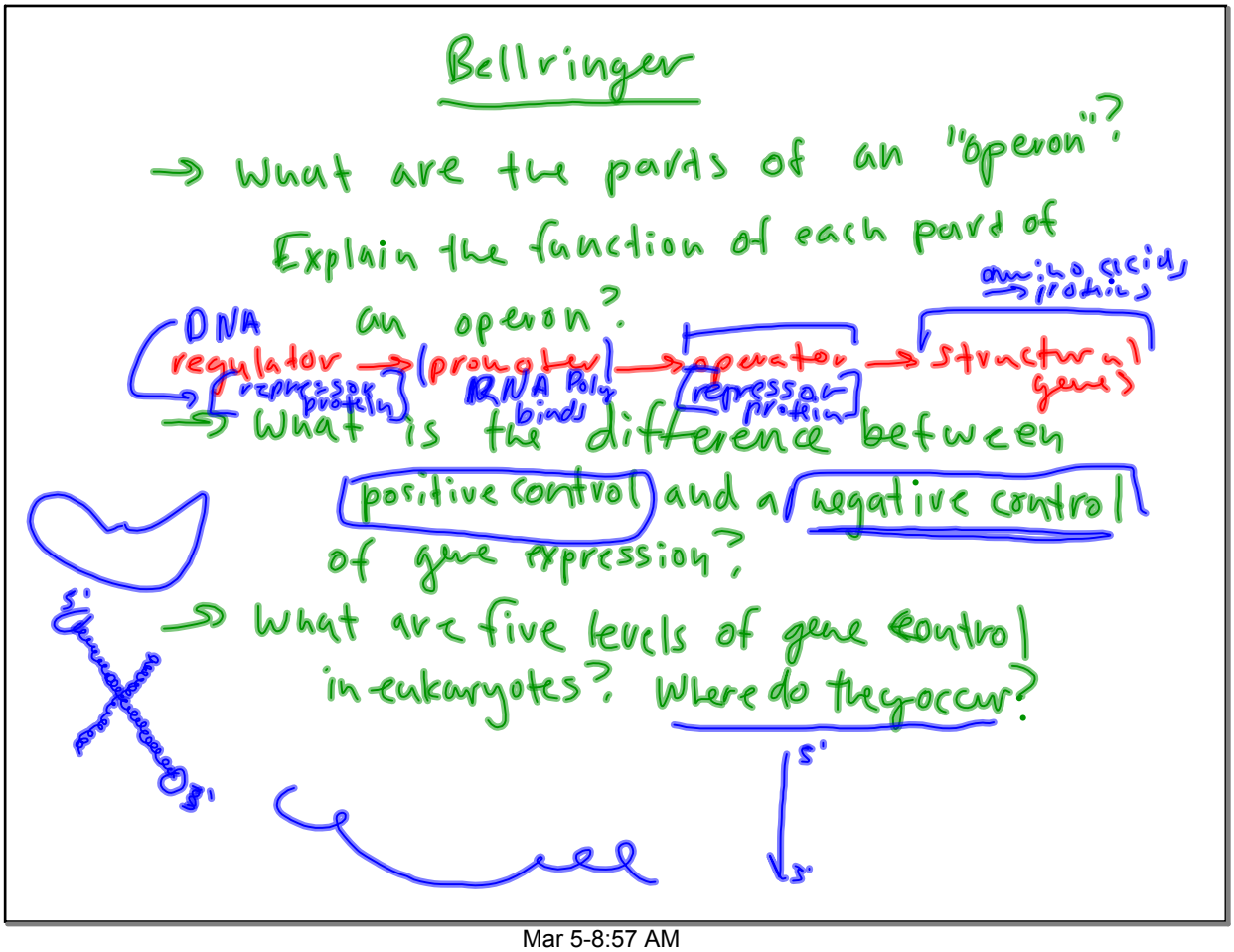

Mar 5-8:57 AM

Gene Regulation Review

Grade: 12th

Subject: AP Biology

Date:

Mar 5-8:09 AM

1 Which of the following illustrates negative control?

A a repressor that becomes active wehn bound to a corepressor and inhibits transcription
B A gene that binds a repressor and becomes active
C An activator that becomes active when bound to a coactivator and activates transcription
D A repressor that binds a gene and becomes inactive

Mar 5-8:13 AM

2 In regulation of the lac operon, when lactose is present and glucose is absent,...

A the repressor is able to bind to the operator
B the repressor is unable to bind to the operator
C transcription of structural gnees occurs
D transcription of lactose occurs
E both b and c

Mar 5-8:15 AM

3 In the regulation of the trp operon, when tryptophan is present, ...

A the repressor is able to bind to the operator
B the repressor is unable to bind to the operator
C transcription of the repressor is inhibited
D transcription of the structural genes, operator, and promoter occurs

Mar 5-8:17 AM

4 In operon models, the function of the promoter is to ...

A code for the repressor protein
B bind with RNA polymerase
C bind to the repressor
D code for the regulator gene

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5 Which of the following statements is true regarding operons?

A the regulator gene is transcribed with the structural genes
B the structural genes are always transcribed
C all genes are always transcribe
D the regulator gene has its own promoter

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6 Which of the following regulate gene expression in the eukaryotic nucleus?

A postranslational control
B transcriptional control
C translational control
D postranscriptional control
E both b and d

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7 Which of the following mechanisms may create multiple mRNAs from the same gene?

A postranslational control
B alternative mRNA splicing
C binding of a transcription factor
D chromatin remodeling
E miRNAs

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8 Translational control of gene expression occurs within the...

A nucleus
B cytoplasm
C nucleolus
D mitochondria

Mar 5-8:27 AM

9 Alternative mRNA splicing is an example of which type of regulation of gene expression?

A transcriptional
B posttranscriptional
C translational
D posttranslational

Mar 5-8:28 AM

10 A scientist adds radioactive uridine (label for RNA) to a culture of cells and examines an autoradiograph. Which type of chromatin is apt to show the label?

A heterochromatin
B euchromatin
C the histones, not the DNA
D the DNA, not the histones
E both a and d

Mar 5-8:30 AM

11 Barr bodies are...

A genetically active X chromosomes in males
B genetically inactive X chromosomes in females
C genetically active Y chromosomes in males
D genetically inactive Y chromosomes in females

Mar 5-8:32 AM

12 Which of these might cause a proto-oncogene to become an oncogene?

A exposure of the cell to radiation
B exposure of the cell to certain chemicals
C viral infection of the cell
D exposure of the cell to pollutants
E all of the above

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13 A cell is cancerous. You might find an abnormality in...

A a proto-oncogene
B a tumor supressor gene
C regulation of the cell cycle
D tumor cells
E all of these are correct

Mar 5-8:40 AM

14 A tumor suppressor gene...

A inhibits cell division
B opposes oncogenes
C prevents cancer
D is subject to mutations
E all of these are correct

Mar 5-8:41 AM

15 If the DNA codons are CAT CAT CAT , and a guanine base is added at the beginning, which would result?

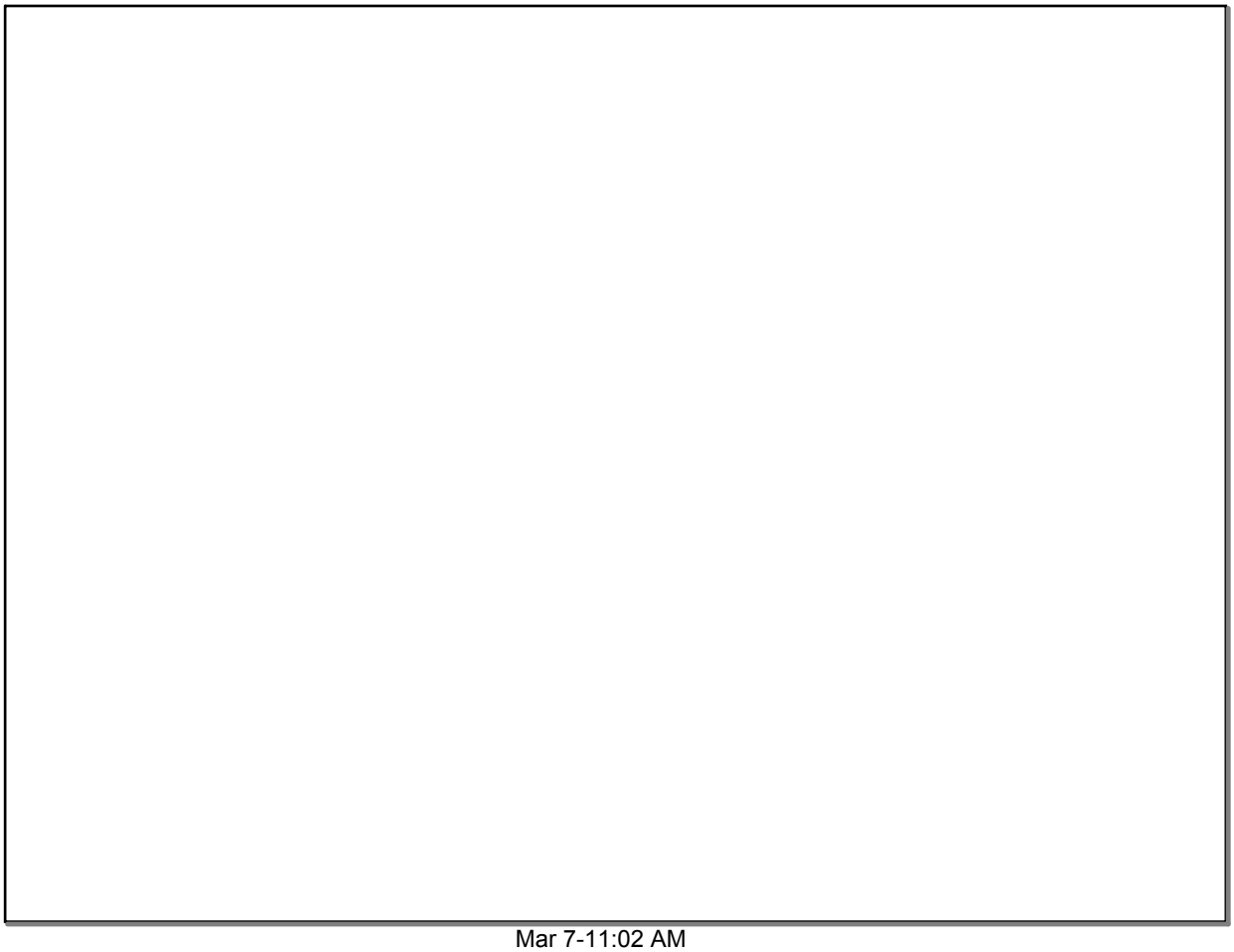
A CAT CAT CAT G
B G CAT CAT CAT
C GCA TCA TCA T
D GC ATC ATC AT

Mar 5-8:43 AM

16 A mutation in a DNA molecule involving the replacement of one nucleotide base pair with another is called a(n)

A frameshift mutation
B transposon
C deletion mutaton
D point mutation
E insertion mutation

Mar 5-8:57 AM



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